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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,396	01/18/2002	Santosh C. Lolayekar	E003-1005US0	8983
48789	7590	06/09/2006	EXAMINER GREY, CHRISTOPHER P	
LAW OFFICES OF BARRY N. YOUNG 260 SHERIDAN AVENUE SUITE 410 PALO ALTO, CA 94306-2047			ART UNIT 2616	PAPER NUMBER

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/051,396

Applicant(s)

LOLAYEKAR ET AL.

Examiner

Christopher P. Grey

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-23 is/are allowed.
- 6) ☐ Claim(s) 1-18 and 24-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 7, 9 and 30 are rejected under 35 U.S.C. 102 (b) as being anticipated by Tzeng (US 6693906)

Claim 1, 30 Tzeng discloses receiving at a first port a packet that specifies a virtual target as a destination (Col 3 lines 45-59 and element 20 in fig 1).

Tzeng discloses sending at a second port the packet to a physical target that is associated with the virtual target (Col 3 lines 33-59 and see fig 1 including all of the shown ports), where the VLAN information and Layer 3 switching is used to route data to a destination.

Tzeng discloses the steps of receiving and sending as described above occurring without buffering the packet (Col 1 lines 39-Col 2 line 6 and Col 5 lines 35-51 and Col 8 lines 52-67).

Claim 2 Tzeng discloses the steps of receiving and transmitting as disclosed above occurring at wire speed (Col 8 lines 52-67 and Col 1 lines 39-58).

Claim 9 Tzeng discloses receiving at a first port a packet that specifies a virtual target as a destination (Col 3 lines 45-59 and element 20 in fig 1).

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Tzeng discloses sending at a second port the packet to a physical target that is associated with the virtual target (Col 3 lines 33-59 and see fig 1) including all of the shown ports), where the VLAN information and Layer 3 switching is used to route data to a destination.

Tzeng discloses the steps of receiving and transmitting as disclosed above occurring at wire speed (Col 8 lines 52-67 and Col 1 lines 39-58).

Claim 7 Tzeng discloses the packet being for a particular request, and wherein at least one trace tag is associated with the packet and identifies information associated with the request (Col 5 lines 18-58).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, 4, 5, 6, 8, 10-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tzeng (US 6693906) in view of Latif et al. (US 640030), hereinafter referred to as Latif.

Claim 3, 10, 12 Tzeng discloses the steps of receiving and sending as described above occurring without buffering the packet (Col 1 lines 39-Col 2 line 6 and Col 5 lines 35-51 and Col 8 lines 52-67).

Tzeng does not specifically disclose the first port being located on a first line card and wherein the second port is located on a second line card, the first line card forwarding the packet to the second line card along with information about the virtual target, and the second line card utilizing the information about the virtual target to update the packet with an address of a physical target.

Latif discloses the first port being located on a first line card and wherein the second port is located on a second line card (Col 19 lines 25-52).

Latif discloses the first line card forwarding the packet to the second line card along with information about the virtual target, and the second line card utilizing the information about the virtual target to update the packet with an address of a physical target (see figs 5, 6a, 6c, Col 7 line 47-Col 8 line 61).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ports as disclosed by Tzeng to be applied with the line cards as disclosed by Latif. The motivation for this modification is to allow the switch the intelligence to determine the type of traffic and direct it accordingly (Col 19 lines 25-30).

Claim 4 Tzeng discloses VLAN information (Col 3 lines 45-59).

Claim 5, 6 Tzeng discloses VLAN information as disclosed in claim 4.

Tzeng does not specifically disclose the virtual target being obtained from a virtual target descriptor stored in a memory on the first line card.

Latif discloses the target being obtained from a descriptor in a memory in the first line card (Col 19 lines 14-59 and fig 20). Latif also discloses the line card being used to send and receive.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ports as disclosed by Tzeng to be applied with the line cards as disclosed by Latif. The motivation for this modification is to allow the switch the intelligence to determine the type of traffic and direct it accordingly (Col 19 lines 25-30).

Claim 8 Tzeng discloses VLAN information, where VLAN information is a clear indication that a number of the ports (fig 1 elements 20) will be used in order to route packets to the required destination.

Tzeng does not specifically disclose the first port being located in a first line card and the second port being located on a second line card, the first line card forwarding the packet to a plurality of line cards, including the second line card, along with information about the virtual target, wherein each line card in the plurality of line cards includes a port in communication with a respective physical device associated with the virtual target, and each of the plurality of line cards utilizing information about the virtual target to update the packet with an address of the respective physical target.

Latif discloses the first port being located in a first line card and the second port being located on a second line card, the first line card forwarding the packet to a plurality of line cards, including the second line card, along with information about the virtual target, wherein each line card in the plurality of line cards includes a port in communication with a respective physical device associated with the virtual target, and each of the plurality of line cards utilizing information about the virtual target to update the packet with an address of the respective physical target (see figs 5, 6a, 6c, Col 7 line 47-Col 8 line 61).

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It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ports as disclosed by Tzeng to be applied with the line cards as disclosed by Latif. The motivation for this modification is to allow the switch the intelligence to determine the type of traffic and direct it accordingly (Col 19 lines 25-30).

Claim 11, 13, 16, 25, 33, 35 Tzeng discloses the steps of receiving and transmitting as disclosed above occurring at wire speed (Col 8 lines 52-67 and Col 1 lines 39-58).

Claim 14 Tzeng discloses receiving a packet at an ingress port (element 20 in fig 1), the packet being destined for a virtual target with a virtual target address

Tzeng discloses forwarding the packet to a fabric (element 25 in fig 1), which forwards the packet to an egress port in accordance with address information (see fig 1 and description)

Tzeng discloses sending a packet at an egress port ( any of elements 20 in fig 1).

Tzeng discloses sending at a second port the packet to a physical target that is associated with the virtual target (Col 3 lines 33-59 and see fig 1 including all of the shown ports), where the VLAN information and Layer 3 switching is used to route data to a destination.

Tzeng does not specifically disclose each port associated with a line card, information including a flowID, and placing a virtual target descriptor identifier and the flow ID in a local header (fig 6a and 6c port ID),

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Latif discloses each port associated with a line card (see figs 5, 6a, 6c, Col 7 line 47-Col 8 line 61), information including a flowID, and placing a virtual target descriptor identifier and the flow ID in a local header (fig 6a and 6c port ID).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ports as disclosed by Tzeng to be applied with the line cards as disclosed by Latif. The motivation for this modification is to allow the switch the intelligence to determine the type of traffic and direct it accordingly (Col 19 lines 25-30).

Claim 15 Tzeng discloses the packet being for a particular request, and wherein at least one trace tag is associated with the packet and identifies information associated with the request (Col 5 lines 18-58).

Claim 17 Tzeng discloses the steps of receiving and sending as described above occurring without buffering the packet (Col 1 lines 39-Col 2 line 6 and Col 5 lines 35-51 and Col 8 lines 52-67).

Claim 18 Tzeng does not specifically disclose the virtual target descriptor being stored in an SRAM on the ingress line card and the virtual target descriptor identifier being stored in a CAM on the ingress line card.

Latif discloses a direct memory access block within fig 20.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ports as disclosed by Tzeng to be applied with the line cards as disclosed by Latif. The motivation for this modification is to allow the switch the intelligence to determine the type of traffic and direct it accordingly (Col 19 lines 25-30).



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Claim 24, 29, 31, 32, 34 Tzeng discloses a port having an input to receive a packet (see fig 1 elements 24).

Tzeng discloses a processor unit in communication with the switch ports to perform virtualization (Col 3 lines 33-67) without buffering (Col 5 lines 35-57).

Tzeng discloses a cpu in communication with the processor unit (Col 3 lines 60-67).

Latif does not specifically disclose the line card.

Latif discloses a line card for use in the switch (see fig 20 and Col 19 lines 25-52).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the line card dedicated for receiving and sending IP data as disclosed by Latif, within the switch dedicated for making switching decisions based on IP data as disclosed by Tzeng. The motivation for this combination is to determine the type of traffic and direct it accordingly (Col 19 lines 25-30).

Claim 26 Tzeng discloses each line card including a plurality of ports and a plurality of processor units, wherein each processor unit is in communication with at least one respective port (Col 3 lines 33-67 and see fig 1).

Claim 27 Tzeng discloses the processor unit including a packet aggregation and classification engine and a packet processor unit (Col 3 lines 45-59 and Col 5 lines 35-52).

The examiner urges the applicant to see fig 20 of Latif.

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Claim 28 Tzeng discloses the processor unit including an SRAM and a CAM, both in communication with the PPU (Col 3 lines 60-67).

***Allowable Subject Matter***

3. Claims 19-23 are allowed.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571)272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2616

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